## **VECTRONICS®**

### **VECTRONICS HAM RADIO CATALOG**

#### Crystal Radio Set Kit

Relive the experience of early radio pioneers



Wind your own inductor, wire up the earliest radio circuit without soldering a thing and listen to the magic of radio that needs no power.

This humble crystal radio set uses a crystal diode detector designed nearly fifty years ago to give you performance that our earliest radio pioneers would envy. This is a lot more than just a nostalgic novelty -- this little baby really performs!

Put up an antenna, connect a ground and you'll be amazed at the stations you'll hear.

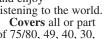
Ship Code A **Includes** all hardware and parts needed to build a working crystal radio set plus wire for an antenna and a sensitive earphone. **This** is an interesting project that's easy on the budget, but big on satisfaction. Size:  $1^{3}/4x6^{4}/2x5$  inches.

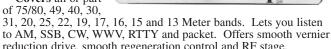
Skill Level: Simple Calls for a few basic tools -- a soldering iron, cutters, pliers, wire-strippers, and a small screwdriver. Doesn't require test equipment for final adjustment or tuning.

#### **Shortwave Regenerative Receiver**

World-wide stations come in loud and clear

Build \$6995 this and sit back Ship Code A and enjoy listening to the world.





reduction drive, smooth regeneration control and RF stage.

Includes all-metal cabinet. Range A: 3.51 to 4.31 MHz. Range B: 5.95 to 7.40 MHz. Range C: 9.56 to 12.05 MHz. Range D: 13.21 to 16.4 MHz. Range E: 17.6 - 22 MHz.

**Includes** two jacks for earphones or speakers and all metal cabinet. Requires a 9 volt battery (not included) Size: 7x6x2<sup>1</sup>/<sub>2</sub> inches. **Skill Level:** *Intermediate* Requires more involved construction.

You may use some test gear for final adjustment or tuning.

#### Aircraft Receiver

Tune in the Friendly Skies



This exciting project tunes the entire voice aircraft band, from 118-136 MHz, and picks up air traffic 100 miles or more away.

Climb into the cockpit and fly "right seat" as pilots and air-traffic controllers work together to keep skies friendly and safe.

Track progress of incoming/outgoing traffic in your area, gain advanced weather information first-hand from pilot reports and discover how the National Air Traffic System really works.

VEC-131K This is not only a "fun" kit to build and operate, it's Ship Code A also a great way to learn about radio/electronics and aviation at the same time! Uses 9 volt battery (not

included), and drives a speaker/headphones. 13/4x31/2x31/2 in. Skill Level: Intermediate Requires more involved construction, you may use some test gear for final adjustment or tuning. VEC-131KC, \$14.95. All metal cabinet for Aircraft receiver,

includes knobs, hardware and rubber feet. Brushed aluminumlooking decal for front panel.

#### Comprehensive Soldering Course

The best home-study soldering course available!

This professional-grade soldering course was designed for schools and individuals. Includes theory, quizzes, PC board and components for soldering practice.

**Taking** this course will results in professional soldering skills and fun blinking LED project.

This course covers all of the latest tools, techniques and materials you'll need for "through-hole" style PC board assembly and repair.

When you complete this course you'll be ready to tackle a wide range of jobs on the bench and in the field. Short, concise lessons cover topics like solders and fluxes, product safety, soldering irons, circuit boards, and much more.

VEC-1500K

\$2995 Ship Code A

Skill Level: Simple Calls for a few basic tools -- a soldering iron, cutters, pliers, wire-strippers and a small screwdriver.

#### CW Memory Keyer

128-character message memory

Store up to 512 characters in four 128 character non-volatile EEPROM message memories. Carry on entire QSOs by just pressing message memory buttons. True Sinewave Sidetone eliminates key clicks with 5 mS of rise and fall time -- it's the most pleasant sounding sidetone you ever

VEC-221K heard. LM386 audio power amplifier provides extra loud volume to speakers. Self-completing dots/dashes with proper timing, dot-dash memory, front panel speed
(3 to 60 wpm) and volume are the speed of (3 to 60 wpm) and volume controls. Adjust weight 25%-75% and sidetone pitch 300 Hz-1000 Hz. Select fully auto or semi-auto mode for "bug" style operation. Select Iambic mode A or B. Tune mode for tuning your transmitter or antenna tuner. MOSFET direct keying output keys any transmitter with positive voltage to ground keying. Totally RF proof. Uses 9 volt battery (not included). Requires single/dual lever paddle. 1<sup>3</sup>/<sub>4</sub>x6<sup>1</sup>/<sub>2</sub>x5 in. **Skill Level:** Simple: calls for a few basic tools -- a soldering iron, cutters, pliers, wire-strippers and a small screwdriver. Doesn't require test equipment for final adjustment or tuning. VEC-221KC, \$14.95. All-metal cabinet for CW Memory Keyer. Includes knobs, hardware, and rubber feet. Brushed aluminum-looking front panel.



Full featured electronic keyer

\$24.95 gives you the best electronic keyer bargain in ham radio. It's the same as VEC-221K without 128 character memory. It takes all of the work out of sending CW you'll have a professional sounding fist in no time. Use 9V battery (not included.). Super

VEC-201K wire-strippers and a small screwdriver. Doesn't require test equipment for final adjustment or turing. STEP ATT compact 2x3x3<sup>1</sup>/<sub>2</sub> inches. **Skill Level:** *Simple:* calls for

\$14.95. All-metal cabinet for CW Keyer. Knobs, hardware and rubber feet. Brushed aluminum-looking front decal.



#### The GIANT Book of Electronic Projects

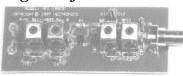
**Project** book includes 19 kits on this page. Has building tips, complete parts lists, parts placement and PC board layouts, test and alignment, operating instructions, in case of difficulty, theory and specs, schematics, cabinet layout.

Order VEC-1901, \$19.95.

VECTRONICS KITS . . . fun to build and use!

### VECTRONICS KITS . . . fun to build and use!

#### High Performance 2-Meter



Preamp Kit

Integrated RF System Put a high performance LNZ on your antenna that will pull weak signals out of noise, combat "intermod",

VEC-1402DK **\$50**95 and knock down local RFI -- all at the same time! Ship Code A More than a preamp, the Vectronics VEC-1402DK is an integrated RF system that attacks three important

modern-day reception problems head-on. First, it boosts signals at the antenna using a premium grade 1 dB noise-figure microwave transistor to overcome feedline loss. Second, it provides razorsharp bandpass filtering that prevents your receiver from being choked up with powerful out-of-band signals. Finally, it provides an optional built-in balun to eliminate unwanted electrical noises and local RFI signals picked up on the outer surface of your coaxial line. In short, the VEC-1402DK allows your scanner or VHF receiver to perform its absolute best -- even in the toughest RF environment! Preamp easily fits into small project box or PVC pipe for antenna mounting. All parts are provided for powering over the feedline. More immune to overload and static discharges than inexpensive GaAsFETS. Requires 9-14 Volts DC. Size:  $1^{1/2}x3x1$  inches.

Skill Level: Intermediate Requires more involved construction, you may use some test gear for final adjustment or tuning.

#### 20/30/40/80 Meter Receiver Kits

High-Performance, Sensitivity Even beginners can easily build these high-performance direct conversion receivers for the HF bands. You'll be pleasantly surprised with their excellent sensitivity that rivals receivers costing many times more. You'll marvel at the clear reception of DX signals from all around the world when you copy CW, SSB and even AM signals. Built it to cover

the entire band or tailor it to cover just a portion of it for smooth band spread tuning. Ideal for on-the-go or at-home QRP operation with your homebrewed QRP transmitter of VECTRONICS QRP CW

Transmitter Kit. High performance is achieved with a NE602/612 mixer-oscillator

chip connected differentially to a high gain LM386 audio amplifier. The oscillator-mixer is voltage regulated by a 78LO5 for best stability. The antenna input has a high-Q parallel tuned circuit with a front panel RF gain control to minimize interference and prevent overloading from strong signals. It has smooth varicap tuning with a shielded VFO coil for maximum stability. You can configure the tuning to cover the entire band or to cover just a portion of the band for more bandspread tuning. Delivers plenty of volume for headphone operation and will even drive a small speaker. Uses 9 volt battery (not included). 1<sup>3</sup>/<sub>4</sub>x4<sup>3</sup>/<sub>4</sub>x5 inches.

**Skill Level:** *Moderate* Requires some test gear -- usually a basic multimeter for some final adjustment or tuning.

VEC-1100KC, \$14.95. Matching all metal cabinet for 20/30/40/80 Meter Receiver Kits. Includes knobs, hardware and rubber feet. Has brushed aluminum looking front panel decal

Simple: Calls for a few basic tools -- does not require test equipment.

Moderate: Requires some test gear -- usually a multimeter.

Intermediate: Requires more involved construction, some test gear.

Difficult: More intricate level of construction and advanced test gear.

VEC-1120K - 20 Meter

VEC-1130K - 30 Meter

VEC-1140K - 40 Meter

VEC-1180K -80 Meter \$2995 Ship Code A

Advanced: Complex wiring and construction, may require advanced test gear like an oscilloscope.

> VECTRONICS KITS . . . fun to build and use!

#### 144/220/440 MHz Preamp Kits

Low-Noise Amplifier

ones" with this easy-tobuild LNA (low noise amplifier). Here's a high-

VEC-1402K - 2-Meter Soup-up your antenna system and "pull the weak" VEC-1402K - 2-1VICE VEC-1402K - 2-20 MHz VEC-1444K - 440 MHz \$17<sup>95</sup> Ship Code A

gain, low-noise preamp that will work wonders for your scanner or ham-band receiver. Unlike low-cost GaAsFET preamps, Vectronics kits use a high quality microwave type bipolar device for exceptional low-noise performance and immunity from damaging electrostatic discharge. A high-Q

LC tuned input filter fights overload from out-of-band signals, and careful output matching ensures efficient energy transfer into your 50-Ohm feedline. Will cover near-by out-of-band commercial channels with only minor retuning. Size: 1x1<sup>1</sup>/<sub>2</sub> inches. **Skill Level:** *Simple* Calls for a few basic tools -- a soldering

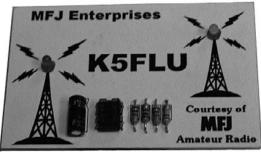
iron, cutters, pliers, wire-strippers and a small screwdriver. Doesn't require test equipment for final adjustment or tuning.

#### **Blinking Tower LED Electronic Badge Kit**

Be the talk of the hamfest or your boy scout troop!

\$12<sup>95</sup> Ship Code A

This kit is a fun, simple way to show off in front of hams, boy scouts, or other trade shows. Be proud of



who you are and shout it out loud with this bright red blinking tower LED badge kit. Listed in the boy scout badge handbook, this is a great evening project for your boy scout troop and a great way to introduce them to ham radio and basic electronics. Customizing available for quantity orders.

Simple: Calls for a few basic tools -- a soldering iron, cutters, pliers, and a small screwdriver. Doesn't require test equipment for final adjustment or tuning. Order VEC-5100K, \$12.95.

#### 2/6/10 Meter FM Receiver Kits

Ideal for Learning about Ham Radio

Turn on and tune in the world of ama- VEC-1002K - 2 Meter teur radio repeater action with these superb educational

VEC-1006K - 6 Meter VEC-1010K - 10 Meter \$34<sup>95</sup>

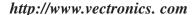
kits. If you ever wanted to get into ham radio, here is the perfect way to get started. These kits will put you in front-row center position to experience what it's like to "work" FM repeaters and talk with other amateur radio operators in your area. Learn the



lingo while you learn about FM communication and study for your license! Careful step-by-step instructions guide you through the construction and tune up. Each model covers the entire FM subband and runs off a self-contained 9 volt battery (not included). Plug in an 8 Ohm speaker or headphones for "loud and clear" reception. Size: 1<sup>3</sup>/<sub>4</sub>x3<sup>3</sup>/<sub>4</sub>x3<sup>1</sup>/<sub>4</sub> inches.

Skill Level: Intermediate Requires more involved construction, ou may use some test gear for final adjustment or tuning.

VEC-1000KC, \$14.95. All metal matching cabinet for 2/6/10 Meter FM Receiver Kits. Includes knobs, hardware and rubber feet. Has brushed aluminum looking front panel decal.



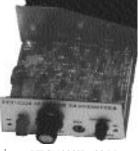
#### VECTRONICS KITS ... fun to build and use! Super CW Filter w/1-Watt amp Kit 20/30/40/80 Meter QRP CW

High Performance Transmitters

Spend an evening building this simple CW Transmitter and work the world! Earn coveted WAS, WAZ, DXCC and other awards running just one Watt. VXO (Variable Crystal Oscillator) tuning is used for best stability, but you can still tune over a small frequency range. Front panel switch selects one of two crystals. 1 popular crystal is included. A built-in Transmit/Receive switch lets you interface a receiver for a complete CW station. Keying wave form is shaped to minimize keyclicks. Works on 12-15 VDC. Choose your favorite or buy them all! Size:  $1^{3}/4x3^{1}/2x3^{1}/2$  inches.

Skill Level: Intermediate Requires more involved construction, you may use some test gear for final adjustment or tuning.

VEC-1200KC, \$14.95. All metal cabinet for 20/30/40/80 Meter QRP CW Transmitter Kits. Comes complete with knobs, hardware and rubber feet. Has brushed aluminum looking front panel decal.



VEC-1220K - 20 Meter VEC-1230K - 30 Meter VEC-1240K - 40 Meter VEC-1280K -80 Meter

\$29<sup>95</sup> Ship Code A

VEC-841K

\$34<sup>95</sup>

Ship Code A

#### Tunable SSB/CW Audio Filter Kit

Tunable Peak and Notch Filters Instantly zero in SSB/CW signals with tunable peak and notch filters. Eliminate interference. Zero in with the frequency control and adjust the bandwidth for best response. Peak or notch signals with double tuned filters for extra steep skirts. Tune the frequency from 300 to 3000 Hz and vary the bandwidth from 80 Hz to nearly flat. Notch is a deep 50 dB. Tunable

peak filter improves CW, SSB, AM, SSTV, and RTTY signals. This tunable SSB/CW Audio filter gives you constant output when bandwidth is varied, linear frequency control and tighter, smoother notch. Works with any receiver or trans-

ceiver. Plugs into phone jack. 1 Watt amplifier for external speaker. Speaker and phone jacks. Speaker disables when phones are plugged in. Uses 12 VDC at 300 mA. 1<sup>3</sup>/<sub>4</sub>x4<sup>3</sup>/<sub>4</sub>x5 in.

Skill Level: Intermediate Requires more involved construction, you may use some test gear for final adjustment or tuning.

VEC-841KC, \$14.95. Custom all-metal cabinet for Tunable SSB/CW Audio Filter Kit. Comes complete with knobs, hardware and rubber feet. Has brushed aluminum looking front panel decal.

Super CW Audio Filter Kit

Select from three bandwidths

Gives an incredibly narrow VEC-820K 80 Hz bandwidth and extremely \$19<sup>95</sup> steep skirts with no ringing for razor sharp selectivity. Pull CW Ship Code A signals out of interference in any ham radio band. Plug into your radio phone jack to drive phones or between audio stages for full speaker operation. Select four bandwidths: 80, 110, 180 Hz. Noise is down at least 60 dB one octave

from center frequency for 80 Hz bandwidth. Center frequency is 750 Hz. Reduces noise with up to 15 dB improvement in S/N ratio -- perfect for exotic low noise operation like moon bounce. 8 poles active IC filtering uses low Q cascaded stages. Stops ringing. No impedance matching needed. No insertion loss. Use 9 volt battery (not included).  $1^3/4x3^1/2x3^1/2$  in.

Skill Level: Simple Calls for a few basic tools -- a soldering iron, cutters, pliers, wire-strippers and a small screwdriver. Doesn't require test equipment for final adjustment or tuning.

VEC-820KC, \$14.95. Cabinet for CW Audio Filter Kit. Knobs, hardware and rubber feet. Brushed aluminum looking front decal.

Razor Sharp Selectivity

This super CW Filter Kit gives you an extremely narrow 80 Hz bandwidth without ringing and a built-in 1 Watt audio amplifier to drive an external speaker. 8 poles active IC filtering uses cascaded low-Q stages -- gives you super steep CW skirts for performance that few filters can match. Narrowest 80 Hz bandwidth interference is 60 dB down 1 octave away from center frequency. Get razor sharp selectiv-

ity -- makes a desired CW signal stand alone from masses of interfering CW signals. Select from 3

bandwidths: 80, 110, 180 Hz.

Center frequency is a pleasant 750 Hz. Get up to 15 dB of noise reduction that relieves fatigue. Automatic noise limiter knocks down static crashes and other impulse noises. Plugs in phone jack to drive external speaker to 1 Watt. Requires 9-18 VDC, 300 mA maximum. Size: 1<sup>3</sup>/<sub>4</sub>x3<sup>1</sup>/<sub>2</sub>x3<sup>1</sup>/<sub>2</sub> inches.

Skill Level: Simple Calls for few basic tools -- a soldering iron, cutters, pliers, wire-strippers, and a small screwdriver. Doesn't require test equipment for final adjustment or tuning

VEC-821KC, \$14.95. All metal cabinet for CW Filter Kit with 1-Watt Audio Amplifier. Comes complete with knobs, hardware and rubber feet. Has brushed aluminum looking front panel decal.

Super SSB Audio Filter
Eight Pole Active IC Filter

This super SSB audio filter kit dramatically improves readability from your receiver or transceiver. It optimizes your audio bandwidth to reduce sideband splatter, low and high pitched interference, hiss, static crashes, background noise and 60 and 120 Hz hum. It makes listening for long periods of time more pleasurable and much

less fatiguing. Ideal for contesting and DXing. Plugs into phone jack of any receiver or transceiver to drive head phones. You can connect it between your receiver audio stage for speaker operation. An 8 pole active IC filter includes 375 Hz high-

pass cutoff plus switch selectable lowpass cutoffs at 2.5, 2, 1.5 KHz (36 dB per octave rolloff). Uses 9v battery (not included).  $1^{3}/4x3^{1}/2x3^{1}/2$  in.

Skill Level: Simple Calls for a few basic tools -- a soldering iron, cutters, pliers, wire-strippers, and a small screwdriver. Doesn't require test equipment for final adjustment or tuning.

VEC-830KC, \$14.95. All metal cabinet for super SSB audio filter kit. Comes complete with knobs, hardware and rubber feet. Has brushed aluminum looking front panel decal.

#### Shortwave Converter

Enjoy World Band Shortwave Radio Converts AM or AM/FM radios to shortwave receivers at the push of a button.

Listen to a soccer game from Germany, a concert from Vienna, BBC News from London, all news, all talk programs . . . etc. Get breaking news from overseas broadcast-

ing stations, BBC, etc. Hear stations all over the world at various times of the day and year.

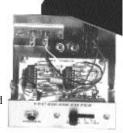
Choose two 1 MHz bands between 3 and 22 MHz and select them by pushing a button. Select day or nighttime band.

**Popular** 13, 16, 19, 25, 31, 41, 49 and 60 Meter International broadcast bands are included for listening. On/Off bypass switch connects antenna to AM radio.

NE-602/612 mixer-oscillator integrated circuit and tuned input circuit. Uses 9 V battery (not included). Size: 1<sup>3</sup>/<sub>4</sub>x3<sup>1</sup>/<sub>2</sub>x3<sup>1</sup>/<sub>2</sub> inches.

**Skill Level:** *Intermediate* Requires more involved construction. You may use some test gear for final adjustment or tuning.

VEC-101KC, \$14.95. All metal case for Shortwave Converter, includes knobs, hardware and rubber feet. Brushed aluminumlooking decal for front panel.



\$**19**<sup>95</sup> Ship Code A

\$29<sup>95</sup>

Ship Code A



**\$27**<sup>95</sup>

http://www.vectronics.com

### VECTRONICS KITS ... fun to build and use!

#### AM Radio Transmitter Kit

Broadcast vour own radio show

If you ever dreamed of having your own radio station, here is your low cost opportunity. You can set up your own AM station and broadcast crystal clear programming from your studio with you as the disc jockey or talk show host. Play music from your CD player, tape deck or other source. You can choose any clear frequency in the AM broadcast band from 530 to 1750 KHz and broadcast interference free to your neighborhood. Your kit accepts a stan-

VEC-1290K dard line level or microphone input so it's easy to con-\$29<sup>95</sup> nect to CD players, tape decks or mike mixers. Has audio level adjustment. Has high level AM modulation Ship Code A for low distortion. An FCC license is not required.  $1^{3}/4x3^{1}/2x3^{1}/2$  in.

Skill Level: Simple Calls for a few basic tools -- a soldering iron, cutters, pliers, wire-strippers and a small screwdriver. Doesn't require test equipment for final adjustment or tuning.

VEC-1290KC, \$14.95. All metal cabinet for AM Radio Transmitter Kit. Comes complete with knobs, hardware and rubber feet. Has brushed aluminum looking front panel decal.



Safely quick charges without overcharging

VECTRONICS All Purpose Battery Charger can safely quick charge all types of Ni-Cd and Ni-MH batteries including handheld radios, cell phones, camcorders and lap top computers many in less than an hour! Rapid *Battery*™ technology examines whether your batteries are fully charged and automatically stops charging -- prevents overcharging and prolongs battery life.

Ni-Cds can develop a memory effect that makes your batteries appear to be nearly dead or have a short-ened battery life. VECTRONICS' discharge before \$**49**<sup>95</sup> charge function can be used to recondition your batteries to nearly normal operation by fully discharging them first to remove the memory effect and then fully recharging your batteries.

The VEC-412K can handle 1 to 12 cells. Has charging status LED to let you know what the status of your batteries are. Runs on 12-15 Volts DC. Size:  $7x6x6^{1/2}$  inches.

Skill Level: Moderate Requires some test gear -- usually a basic multimeter for some final adjustment or tuning.

VEC-412KC, \$14.95. Cabinet for Battery Conditioner Kit. Includes knobs, hardware and rubber feet. Has brushed aluminum looking front panel decal.

#### 2 Meter FM Transmitter Kit

Powerful 5-Watt transmitter

Transmit voice, data, and more with this powerful 5-Watt 2 Meter transmitter! The versatile VEC-1202 2-Meter Transmitter Kit accepts microphone input, AFSK data (up to 1200 baud) and FSK data (up to 9600 baud). With both reactance and direct FM modulators on board, you jumper-select the best one for your particular application. A reliability proven Motorola NBFM transmitter IC and PA transistor are at the heart of this rock-stable crystalcontrolled project (x8 frequency multi-

plication). Standard 5-pin DIN mic connections \$**99**95 match most "CB" type microphones -- including PTT Ship Code A function. Power output is typically 5-6 watts with spurs and harmonics at -60 dBc. Construction and tuning are simple with the help of a carefully written step-by-step manual. Runs on 12-14 Volts DC at 1.5 amps. Size: 1<sup>3</sup>/<sub>4</sub>x4<sup>3</sup>/<sub>4</sub>x5 inches.

Skill Level: Difficult Requires a more intricate level of construction and may need more advanced test gear for final adjustment or tuning.

VEC-1202KC, \$14.95. Matching all metal cabinet for 2 Meter FM Transmitter. Includes knobs, hardware and rubber feet. Brushed aluminum looking front panel decal.

#### SCA Decoder Kit

Tune in Hidden FM Broadcast

Did you know that hidden in many standard FM broadcast signals are a host of very interesting programming, that you can listen to for free? You'll find commercial free background music that restaurants and hotels subscribe to, all news programs, weather reports, stock quotes, digital data, ethnic programs broad-

cast in different languages, reading services for the blind and much more. This programming is broadcast Ship Code A in SCA subcarriers of many FM broadcast signals.

By connecting the VEC-422K to the detector output of your FM receiver, you can enjoy this programming. The VEC-422K tunes the entire SCA band from 50 to 100 KHz with front panel tuning and volume control. A PLL (phase-locked-loop) integrated circuit gives excellent performance. Has low level audio output and builtin amplifier to drive an external speaker. VECTRONICS kits feature a professional quality epoxy glass PC board with solder mass and screen printed component legend to make kit assembly easy.  $1^{3}/4x6^{1}/2x5$  in.

Skill Level: Simple Calls for a few basic tools -- a soldering iron, cutters, pliers, wire-strippers and a small screwdriver. Doesn't require test equipment for final adjustment or tuning.

VEC-422KC, \$14.95. All metal cabinet for SCA Decoder Kit. Includes knobs, hardware and rubber feet. Has brushed aluminum looking front panel decal.





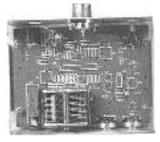
#### 2 Meter Monitor Receiver receives 144-148 MHz



You'll hear weak \$7995 signals loud and clear, Ship Code A with performance like that of receivers cost-

ing much more. A low noise, high gain RF pre-amp gives you excel-

lent 0.1 mV sensitivity. With its air variable tuning capacitor complete with 8:1 reduction, you'll hear no noticeable drift. A dual conversion superhet receiver provides excellent selectivity and stability. Automatically eliminates annoying squelch tails, and a shaped audio response reduces background noise. Includes 50 Ohm antenna input and built-in speaker, plus tone, squelch and volume controls, glass epoxy PCB and all-metal cabinet. Includes



directions for aligning your receiver without instruments. Requires 9 volt battery (not included) or 9-12 VDC power supply. Includes 19<sup>1</sup>/<sub>4</sub> inch wave whip antenna and all-metal cabinet.  $1^3/4\times3^1/2\times3^1/2$  in.

Skill Level: Intermediate Requires more involved construction. You may use some test gear for final adjustment or tuning.

### VECTRONICS KITS ... fun to build and use!

#### Portable CD Amplifier Kit

Pumps out plenty of crisp, clean audio

Lets you VEC-1604K plug in a portable Ship Code A CD player and a pair of 8 Ohm speakers. 4 watt per channel amplifier pumps out plenty of crisp, clean audio. Features wide range tone and volume controls. Power it from a 12 volt battery or other appropriate 12 VDC power supply. Simple skill level.



Shown in optional cabinet

Order VEC-1604K, \$19.95. VEC-1604KC, \$14.95. Custom cabinet for Portable CD amplifier Kit. Includes rugged plastic cabinet, control panel knobs, all assembly hardware and front panel brushed-aluminum looking decal.

#### Professional Function Generator

Sine, Square, Triangular wavefroms 1Hz - 1 MHz
This professional

grade function generator kit provides precision sine, square and triangular waveforms from 1 Hz to 1 MHz in 6 decade ranges.

**Amplitude** is adjustable from 0-12 volts peak-to-peak. DC offset is adjustable from 6 to +6 VDC. Output is short circuit protected with an output impedance of 400 Ohms.

Size: 6.8W5.3H3.2D inches.

**Includes** professional quality glass epoxy PC board with solder mask and component legend, simple step-bystep instructions, high quality components, knobs, hardware and sturdy cabinet. 110 VAC.

Skill Level: Moderate Requires some test gear -- usually a basic multimeter for some final adjustment or tuning.

#### Voice Activated Tape Recorder Switch Kit

Remotely and automatically record speeches, presenta-



sations, etc. This kit lets you remotely and automatically record conversations, speeches and other presentations. Lets you record for longer periods by not recording silence and wasting tape. Plug it into the

VEC-4001K

\$**99**<sup>95</sup>

remote jack of a tape recorder and it is activated when it hears speech. Self-contained unit has a built-in microphone, on/off switch and uses a 9 volt battery. Simple skill level. Order VEC-483K, \$19.95.

VEC-483KC, \$14.95. Custom cabinet for Voice Activated Tape Recorder Switch Kit. Includes durable plastic custom cabinet, control panel knobs, all assembly hardware and front panel brushed aluminumlooking decal.

Vacuum-Tube Preamplifier Kit

Enjoy the warm and gutsy vintage sound of a real life glow-in-the-dark vacuum tube preamp



Shown in optional cabinet

VEC-1680K lets you enjoy the warm and gutsy vintage sound of a real life glow-inthe-dark vacuum

tube pre-

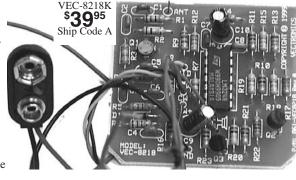
amp. The smooth sound of vacuum tubes comes from the vacuum tube's inherent non-linearity and high degree of even-harmonic distortion. Preamp uses a classic 12AX7 tube. Shown in optional case. Includes tube, 110 VAC power supply. Moderate skill level. Order VEC-1680K, \$99.95.

VEC-1680KC, \$39.95. Custom cabinet for Vacuum-Tube Preamplifier Kit. Includes rugged all metal cabinet, all assembly hardware, front and rear panel decals and self-adhesive rubber feet.

#### Counter Surveillance Monitor Kit

Search out and remove electronic bugs

This kit is a highly sensitive wideband receiver detector. Helps search out and remove electronic



bugs. Protect your ideas from industrial espionage or stop your wife and her detective from catching you in a compromising position. The closer you get to a bug, the higher pitch of audio output. Lets you sweep an entire area with the monitor to find the offending device. Powered by a 9 volt battery. Moderate skill level. Order VEC-8218K, \$39.95.

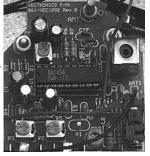
VEC-8218KC, \$14.95. Custom cabinet for Counter Surveillance Monitor Kit. Custom metal front panel, durable plastic enclosure, all assembly hardware and control panel knobs.

#### FM Stereo Transmitter Kit

Broadcast crystal clear programming on the FM radio band!

Ship Code A

VEC-1292K lets you connect your CD player, tape deck, or other audio source and broadcast crystal clear stereo programming on the FM radio band! It gives you incredibly realistic grand movie theater sound! Perfect for use around your home or school. Use at church to assist the hardof-hearing. Outstanding audio quality! Shown in optional VEC-1292KC all metal cabinet. Frequency adjustable 88 to 108



MHz in FM broadcast band. Use 9V battery or power source 5-15 VDC. Moderate skill level. VEC-1292K, \$34.95. VEC-1292KC, \$19.95. Custom cabinet for FM Stereo Transmitter Kit. Includes rugged all metal covered top and chassis, professional looking front and rear decals, all assembly hardware and self-adhesive rubber feet.

### **VECTRONICS<sup>(R)</sup> ANTENNA TUNERS**

### VC-300M Mobile Antenna Tuner

\$10995 Ship Code C VC-300DLP Antenna Tuner VC-300DLP \$159<sup>95</sup> Ship Code C



The VC-300M Mobile Antenna Tuner is compact, lightweight, easy-to-operate, and the most economical of the antenna tuners available from *VECTRONICS*.

#### **FEATURES:**

**Versatility:** The VC-300M is compatible with almost ANY antenna; including verticals, dipoles, inverted vees, beams or mobile whips that are fed by coax cable. (Balanced feed not included).

**Dual Movement Meter:** The VC-300M features a dual movement meter which simultaneously monitors Power and SWR. The meter is lighted. 115 VAC to 12 VDC adaptor is not included.

#### SPECIFICATIONS:

**RF Power:** 1.8 to 30 MHz, continuous 200 Watts;

150 Watts @1.8 MHz. (max SWR 4:1)

**Dimensions:** 7.25Wx8.75Dx3.6H inches.

Weight: 3.4 lbs.

# ANTENNA TUNER TECH TIPS

Generally, Antenna Tuners can lower your antenna SWR from 4 or 5 to 1, to a more reasonable 1.2 to 1.5 to 1. Under these conditions, you can operate the rated power as specified. Running more continuous power than specified (ie: 200 Watts @ 4:1 SWR) may damage or overheat components. Higher power than 200 Watts with a higher SWR than 4:1 requires a reduction of power to the tuner.



The VC-300DLP Antenna Tuner has a built-in Dummy Load, a Peak or Average reading meter, and is easy to operate. It is the best-selling antenna tuner available from *VECTRONICS*.

#### **FEATURES:**

**Versatility:** The VC-300DLP is compatible with almost ANY antenna; including verticals, dipoles, inverted vees, beams or mobile whips that are fed by coax cable, open feeders, balanced lines or a single wire.

Tuning Options: The VC-300DLP features a front panel switch control which allows you to alternate between two coax fed antennas (direct or through the tuner). You can also switch to a balanced line or a wire antenna. The BYPASS position allows you to switch to a directly connected coax antenna. In the DIRECT positions, COAX 1 OUT or COAX 2 OUT, the tuner is bypassed but the SWR/Power Meter remains active. The VC-300DLP also has switch positions for the Dummy Load (TUNED or DIRECT). Using the TUNED Dummy Load allows you to preset the tuner for the band in use, eliminating on-air interference.

**Dual Movement Meter:** The VC-300DLP features a dual movement meter which simultaneously monitors Power and SWR. The meter is lighted. 115 VAC to 12 VDC adaptor is not included.

#### SPECIFICATIONS:

RF Power: 1.8 to 30 MHz, continuous 200 Watts;

150 Watts @1.8 MHz. (max SWR 4:1)

XMTR/Antenna

**Tuning:** Continuous Rotation Capacitors, 48

Position Switched Inductor.

**Selector:** Six Positions: COAX1 (tuned and

direct), COAX 2 (tuned and direct), BYPASS, and Balanced Antenna.

**PWR Switch:** High and Low (300W/30W). **Dimensions:** 10.2Wx9.4Dx3.5H inches.

Weight: 3.4 lbs.

### **VECTRONICS® ANTENNA TUNERS**

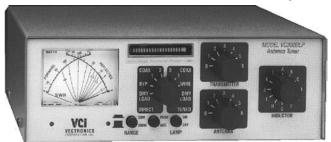
VC-300D Antenna Tuner \$1000 with Digital Bargraph Display

**99**<sup>95</sup> Ship Code C

### HFT-1500

High Power Antenna Tuner





The VC-300D Antenna Tuner is the top of the line! This tuner has the same identical features and specs as the VC-300D but includes a Digital Bargraph Display which enables the user the capability of reading Peak Output Power. Level and Delay controls have been added to calibrate the display and to vary the delay response.

#### **FEATURES:**

Versatility: The VC-300D is compatible with almost ANY antenna; including verticals, dipoles, inverted vees, beams or mobile whips that are fed by coax cable, open feeders, balanced lines or a single wire.

Tuning Options: The VC-300D features a front panel switch control which allows you to alternate between two coax fed antennas (direct or through the tuner). You can also switch to a balanced line or a wire antenna. The BYPASS position allows you to switch to a directly connected coax antenna. In the DIRECT positions, COAX 1 OUT or COAX 2 OUT, the tuner is bypassed but the SWR/Power Meter remains active. The VC-300D also has switch positions for the Dummy Load (TUNED or DIRECT). Using the TUNED Dummy Load allows you to preset the tuner for the band in use, eliminating on-air interference.

**Dual Movement Meter:** The VC-300D features a dual movement meter which simultaneously monitors Power and SWR. The meter is lighted. 115 VAC to 12 VDC adaptor is included.

Bar Graph Display: 20 segment LED display indicates 100% peak reading with adjustable level and delay.

#### **SPECIFICATIONS:**

**RF Power:** 1.8 to 30 MHz, continuous 200 Watts;

150 Watts @1.8 MHz. (max SWR 4:1)

XMTR/Antenna

Tuning: Continuous Rotation Capacitors, 48

Position Switched Inductor.

Selector: Six Positions: COAX1 (tuned and direct), COAX 2 (tuned and direct),

BYPASS, and Balanced Antenna.

High and Low (300W/30W). **PWR Switch:** 10.2Wx9.4Dx3.5H inches. **Dimensions:** 

Weight: 3.4 lbs.



The HFT-1500 Antenna Tuner optimizes the performance of your antenna system from your transmitter or SWL receiver by providing adjustable impedance matching. HFT-1500 measures the power and the Standing Wave Ratio, which allows you to tune the indicated SWR to the lowest ratio possible for the selected transmit frequency. HFT-1500 features a precision frequency compensated dual movement SWR meter. Included with the tuner is a unique Digital Bar Graph Display that enables you to analyze peak SSB power measurements. Level/Delay controls are front panel adjustable.

#### SPECIFICATIONS AND FEATURES:

#### Front Panel Indicators:

Meter: Dual movement lighted cross-needle power and SWR meter. RF directional coupler sensing head for the internal wattmeter circuit. 115 VAC to 12 VDC adaptor is included.

Bar Graph Display: 21 segment LED display to indicate 100% peak reading with adjustable level and delay.

#### Front Panel Controls:

Input Tuning: Continuous rotation 4.5 kV capacitor. Antenna Tuning: Continuous rotation 4.5 kV capacitor. Inductance: 28 uH roller inductor with #10 bright tin plated wire and Delrin/Teflon body.

Antenna Switch Selector: 6 position ceramic coax switch: COAX1 Tuned/Tuner Bypass, COAX2 Tuned/ Tuner Bypass, Bypass and Balanced Antenna. Power Range Switch: 2 position: 300W/3000W. Inductor Control/Tune: Dual nylon gear driven precision 5-digit mechanical counter for accurate resetability.

#### Rear Panel Connectors:

COAX1: SO-239 connector; COAX2: SO-239;

Bypass: SO-239; RF Input: SO-239;

Balanced Line: Dual high voltage Delrin terminal post; includes 4:1, 2.0 kW Voltage Balun (Ruthroff Type). End-Fed Wire: High Voltage Delrin terminal post.

#### Other:

Frequency Coverage: 1.8-30 MHz; continuously tuneable. Maximum Power: 1000W single tone continuous, 2

kW PEP SSB. (Maximum SWR: 4:1). Dimensions: 5.5Hx12.5Wx12D inches.

Weight: 10 lbs.

### **VECTRONICS**<sup>(R)</sup>



Ship Code A

PM-30 and PM-30UV can both simultaneously measure and display forward power, reflected power and SWR in the frequency range on their dual movement meter system.

Accuracy of the readings is assured because these SWR/Power Meters feature a true shielded directional coupler.

The backlit meter can also display either peak or average power readings. Optional 12 VDC adaptor, AC-12...\$12.95.

First rate construction includes scratch-proof Lexan front panel. Measures a compact 5.3x5.75x3.5 in. SO-239 Connectors. Other Models Available:

PM-30UVN, \$89.95. Has N connectors. Covers 100-500 MHz.

### VECTRONICS(R)



**DL-300M** 

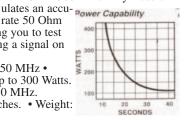
The DL-300M Dummy Load sim-

rate 50 Ohm

antenna up to 150 MHz, enabling you to test your transmitter without radiating a signal on

SPECIFICATIONS: • DC to 150 MHz • Handles short-term RF power up to 300 Watts.

- VSWR of less than 1.5:1 at 150 MHz.
- Dimensions: 5Wx2Dx2.9H inches. Weight: .5 lbs.

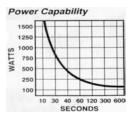




### DL650M

Ship Code A The DL650M Dummy Load simulates an accurate 50 Ohm antenna up to 650 MHz, enabling you to test your transmitter without radiating a signal on the air. **SPECIFICATIONS:** 

- DC to 650 MHz.
- · Handles short-term RF power up to 1500 Watts.



### **SWR/POWER METERS**

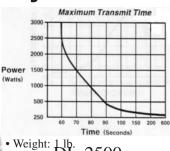
PM-30UV Ship Code A



PM-30	PM-30UV		
1.8-60 MHz	144/220/440 MHz		
3 kW	300 Watts		
300W, 3 kW	30W, 300W		
SO-239	SO-239/N/BNC		
5.3x5.75x3.5 in.	5.3x5.75x3.5 in.		
+12 VDC	+12 VDC		
1.2 lbs.	1.2 lbs.		
	1.8-60 MHz 3 kW 300W, 3 kW SO-239 5.3x5.75x3.5 in. +12 VDC		

### ummy Loads





2500

Fan-cooled DL-2500 Dummy Load simulates an accurate 50 Ohm antenna up to 60 MHz, enabling you to test your transmitter without radiating a signal on the air. 115 VAC to 12 VDC adaptor is included. **SPECIFICATIONS:** 

• DC to 60 MHz. • Handles short-term RF power up to 2500 Watts. • VSWR of less than 1.3:1 at 30 MHz. • Power Dissapation: 2500 Watts average up to one minute maximum. Fan must be used at high power levels. • Duty Cycle: 10% with fan. • Voltage Gradient: 10 kV per inch. • Resistor type: Dispersed carbon particles fired in a ceramic matrix. • Energy Density: 7000 joules/inch/second. • Dimensions: 8.5Wx9.25Dx4H inches. • Weight: 5 lbs.

\*Upon request, a BNC or N connector is available on either model (DL300M, DL650M, or DL2500 in place of the SO-239. Please add "B" or "N" suffix when

VEC-554X ordering. (e.g. DL650MB).

Ship Code B

VEC-554 VERSALOAD<sup>TM</sup> KW dummy load lets you tune up fast! Extends life of

finals! Run 1 KW CW or 2 KW PEP for 10 minutes. Run 1/2 KW CW or 1 KW PEP for 20 minutes. **Run** continuous duty with 200 Watts CW or 400 Watts PEP. Complete with derating curve. Quality 50 Ohm non-inductive resistor. Use transformer oil (not included).

Low VSWR to 400 MHz. Under 1.2:1 to 30 MHz. 1.5:1 for 30-300 MHz. 2:1 for 300-400 MHz. Ideal for testing both HF and VHF rigs. Has SO-239 connector and vented for safety. Removable vent cap. Carrying handle.  $7^{1/2}$  inches high by  $6^{3/8}$  inches in diameter. **VEC-554**, \$59.95. Includes industrial grade transformer oil (no PCB).

• Dimensions: 8.75Wx3Dx2.75H inches.

**SWR-584B** Deluxe Antenna SWR Analyzer with RF Resistance Meter

SWR-584B

Ship Code B

Has 10-digit LCD display and frequency counter from 1.8 through 170 MHz. 4 test instruments in 1!

The new VECTRONICS Deluxe Antenna SWR Analyzer with RF Resistance Meter is four test instruments built into one easy-to-handle box! You get an accurate RF signal generator, a high resolution 170 MHz frequency counter, an RF Resistance Meter and an amazing SWR Analyzer.

Here's just a few things you can do with the SWR-584B:

Find your antenna's true resonant frequency from the shack.

Tune the antennas on your tower and watch the SWR change instantly as you make each adjustment. You'll know exactly what to do by simply watching the display.

Tune critical HF mobile antennas in seconds -- without subjecting your transceiver to high SWR.

#### SWR-66 VECTRONICS SWR DIP Meter Adapter

Plug one of these pair of dip meter coupling coils into your SWR-584B SWR Analyzer. You'll turn it into a accurate and sensitive bandswitched dip meter.

With a dip meter, you'll save time and take the guesswork out of winding coils, measuring inductance and capacitance. You can determine the resonant frequency of tuned circuits and meas-

ure Q of coils. A set of two coupling coils cover 1.8 through 170

Ship Code A

MHz with the SWR-584B.

### ANTENNA ANALYZER

Measure your antenna's 2:1 SWR bandwidth on a single band, or analyze multiband performance over the entire spectrum from 1.8 to 170 MHz!

Measure inductance, capacitance, resonant frequency of tuned circuits, transmission line velocity factor/impedance/loss. Test RF chokes, transformers, baluns.

Adjust your tuner for a perfect 1:1 match without creating

**This** is only the beginning. If you work with antennas, this revolutionary new VEC-TRONICS Deluxe SWR Analyzer with RF Resistance Meter is the best investment that you will ever make! Now you can diagnose a wide range of antenna problems instantly with one easy-to-use instrument.

SWR-584B gives you a complete and clear picture of your antenna's true performance level anywhere between 1.8 and 170 MHz -- you can even check SWR outside the ham bands without violating FCC rules. Set the bandswitch and tune the dial -- just like your transceiver. SWR is displayed instantly.

**VECTRÔNICS** new RF Resistance Meter can measure RF resistance up to 500 Ohms at minimum SWR -- instantly!

The SWR-584B takes the guesswork out of building matching networks and baluns for your antennas.

SWR-66

Watch the effects of spacing on radiation resistance as you adjust your antenna.

#### **VECTRONICS**

Deluxe Antenna SWR Analyzer with RF Resistance Meter is fully portable, powered internally by 8 AA batteries or 240 VAC with AC-12B. The SWR-584 is in a rugged all metal cabinet that's a compact  $4x2^{1/2}x6^{3/4}$  inches. Attractive grey heavy duty back panel and face plate looks great sitting on the test bench!

You can take it to remote sites, up on towers, on DXpeditions -anywhere those hard-totune antennas are located. For rough service, pick up a convenient SWR-29B padded foam carrying pouch and protect your SWR-584B and keep it looking like new.

**The** SWR-584B *Deluxe* Antenna SWR Analyzer with RF Resistance Meter works so good that many antenna manufacturers use them in their labs and on the production line -- saving thousands of dollars in instrumentation costs! Professional installer and technician used worldwide.

You'll be in the company of folks like technical universities,

armed forces and space stations. All have our SWR analyzers and are putting them to good use! Ask a ham about our analyzers and you'll get a rave review!

You get full 1.8 to 170 MHz coverage, simple operation, instantaneous readings, a high accuracy frequency counter and an exclusive RF Resistance Meter all in one exceptionally low price!

#### SWR-29C

Deluxe SWR Analyzer Carrying Pouch

Now you can tote your SWR Ship Code A Analyzer anywhere and not worry about damage! Made with a special foam filled fabric, the SWR-29C cushions blows, deflects scrapes and protects knobs, meters, and displays from harm as you carry it to remote sites and on top of high towers. Wear around your waist, over your shoulder,

or clip it to the tower while you work -- the fully adjustable webbed fabric carrying strap has snap hooks on both ends. Clear protective window frame and cutouts for knobs.

50 Ohm ATTENUATOR

SWR-29C



### VECTRONICS (R)

VEC-862

50 Ohm Step Attenuator



Plot accurate

antenna patterns -- connect between your receiver and antenna and use your S-meter

as a precision calibrated field strength meter.

VEC-862

This will be your most useful hamshack accessory. Ideal for fox hunting.

Determine gain, loss and to evaluate linearity of circuits. measure input and output level differences.

Isolate one circuit from another. Extend the range of sensitive measuring equipment, and much more. Up to 81 dB attenuation in 1 dB steps. 250 mW maximum input.

Excellent to 170 MHz (usable to 500 MHz). Female BNC connectors. Two free BNC to SO-239 adapters.

Sturdy, black all metal cabinet measures a compact 6<sup>1</sup>/<sub>2</sub>Wx2<sup>1</sup>/<sub>2</sub>Hx1<sup>1</sup>/<sub>2</sub>D inches.

#### **ANTENNAS AND ACCESSORIES VEC-896**

**VECTRONICS 3 element** 6 Meter Yaqi



A directional antenna is essential for long distance VHF communication. By focusing transmitter power onto the horizon in a

VEC-1862 \$69<sup>95</sup> Ship Code A

single direction, Vectronic's three element 6 Meter Yagi quadruples your ERP (effective radiated power) over a half-wave dipole.

The same benefit applies when receiving -- sensitivity toward the front of the antenna is improved by 6 dB over a dipole, while unwanted noise and interference from other directions are rejected.

The VEC-1862's main lobe (area of maximum sensitivity) is 70 to 80 degrees wide. This means you can converse with several stations in one general direction without having to constantly reposition your rotator for maximum signal.

Two VEC-1862s can be stacked to double your transmitter ERP and your received signal over a single VEC-1862. It also doubles your received signal. Stacked antennas also have greater capture area, which can improve reception even more.

The VEC-1862 weighs just 2 pounds and has a boom length of 6 feet. It is designed for installation with readily available TV mast, mounts and hardware.

The driven element uses Vectronics' *NoTuneHairpin*™ impedance matching system, and elements are cut to exact length at the factory. No further tuning is needed for 50 MHz SSB coverage.

Because of its compact size, lightweight construction, and easyto-remove elements, the VEC-1862 is also an excellent choice for 6 Meter portable or rover operation.

VEC-1862 handles 300 Watts PEP SSB and can be mounted horizontally or vertically. A current balun decouples the 50 Ohm feedline from the antenna. It has 6 dBD of forward gain and backlobe attenuation of 18 dB.

VECTRONICS 6 Band halfwave vertical antenna

Operate 40, 20, 15, 10, 6, and 2 Meters with this VEC-896 ground independent halfwave vertical antenna -no radials or ground ever needed!

VEC-896

It's only 12 feet high and has a tiny 24 inch footprint! You can mount it anywhere from ground level to the top of a tower -- on apartments, condos, small lots, even on a motorhome. You can take it anywhere -- field day, DXpedition, camping, etc.

Frequency selection is fully automatic -- there are no moving parts, nothing to adjust -- all you do is transmit. It handles up to 1500 Watts PEP. Low angle or radiation reaches out to snag in rare DX.

**During** a contest, you'll love quickly working one station after another from all directions because of its omni-directional pattern. Easy to put together and put it on the air in one afternoon.

**How** does VECTRONICS achieve maximum efficiency in such a compact multiband antenna? The key is end loading -- the most efficient form of loading known. The entire length of the antenna is always radiating power. No lossy traps to reduce effective length.

End loading provides multibanding and full electrical half wave length on each HF band. An optimum combination of capacitive hat and inductive end loading delivers a close 50 Ohm match without a lossy impedance matching network.

Efficient high-Q loading coils are wound on low loss fiberglass forms. Large 1<sup>1</sup>/<sub>8</sub> inch diameter aluminum radiators are used to keep losses to a minimum. High-strength Aircraft aluminum.

#### VEC-603 Six Meter "Magic Band" Antenna Tuner



\$49<sup>95</sup> Ship Code A

Low SWR with most any coax fed antenna. You'll get more power out of your transceiver and into your antenna for more DX. Tune for lowest SWR. Handles 100 Watts FM, 200 Watts SSB PEP. Works with solid state and tube rigs. Measures a super compact 5Wx21/2Hx3D inches.

### TUNER ACCESSORIES

#### Tune up your antenna tuner without transmitting

Tune up your antenna tuner without transmitting a single milliwatt! You can't cause QRM -- there's no radiated power. Precisely tune your antenna tuner for a 1:1 SWR -- no additional "tweaking" needed.

**Protect** your transceiver and antenna tuner. Avoid dangerous overheating and arcing caused by high SWR and long tune-ups.

It's easy to use! Plugs between transceiver and antenna tuner. Adjust tuner for a null in receiver noise by ear or S-meter and you have 1:1 SWR! Tuning noise is modulated -- easy to recognize. RF\*Guard bypasses the VEC-512 to

**Handles** up to 300 Watts. Works with all transceivers from 160 through 6 Meters. Measures  $3^{1/3}x1^{1/4}x4$  inches. Use 9-12 Volts DC or 9 volt battery (not included).



VEC-512

**\$79**95

Ship Code A

VEC-621 or VEC-624 \$69<sup>95</sup>

Ship Code A

VEC-621 Dual Band VHF Antenna Tuner covers 2 Meters and 220 MHz. Built-in

SWR/Wattmeter measures SWR in 2 power ranges: 300 or 30 Watts. Meter is usable for both 144 MHz and 220 MHz bands. Low SWR with practically any antenna. Handles 200 Watts. Designed to match a wide range of impedances for both mobile/base operation. SO-239 input and output connectors. Wing nut post ground. Eggshell white and black aluminum cabinet. 8x2<sup>1</sup>/<sub>2</sub>x3 inches fits just about anywhere. VEC-624, \$69.95 covers 440 MHz band only.

#### VEC-514 greatly extends the range of your automatic tuner!



Does your HF rig's automatic tuner have Ship Code A limited range? Can't auto-tune your antenna

on all bands? Have to pretune your antenna with a manual tuner before your automatic tuner will work?

**VECTRONICS**' latest innovation greatly extends the matching range of your automatic antenna tuner -- you can match nearly any antenna automatically!

**VECTRONIC's** new AutoTuner Extender<sup>™</sup> transforms your antenna impedance -- up or down by as much as 10 times! Puts nearly any antenna to the matching range of your automatic tuner.

It's easy to use. Just bypass your auto-tuner and turn the VEC-

514 knob for minimum SWR. That's it -- you're ready to autotune. Never manually pre-tune with an external tuner again!

By transforming your antenna impedance so your tuner can be used in a low Q mode, you can handle more power without arcing your tuning capacitors. It also extends the range of manual antenna tuners. You can use any transceiver from 160 through 10 Meters with up to 300 Watts.

An OFF position grounds your antenna to bleed off static and protect your receiver. OFF also connects your transceiver to an external dummy load for safety. Also has a bypass position.

VEC-514 is a heavy duty, wide band, wide range, impedance transforming device. It has been carefully designed for flattest frequency response and lowest loss.

LP-30 1500 Watt Low Pass Filter

\$69<sup>95</sup> Ship Code A

#### LP-2500 2500 Watt Low Pass Filter

LP-2500 \$13995 Ship Code B



Suppress TV interference at the source with the LP30 Low LP30 Frequency Response

20

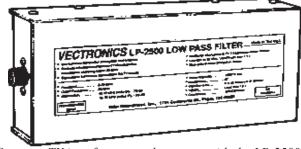
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40

Pass Filter.

Use between Transmitter and Antenna or Tuner. Reduces TV interference (TVI) radiated by transmitters operating below 30 MHz. Suppresses harmonics appearing in the TV bands. Additional attenuation to TV IF

20 30 40 frequencies above 40 MHz. Low FREQUENCY (MH2) loss to 30 MHz. 9-pole inverse Chebyshev design.

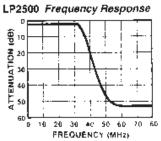


LOW PASS FILTERS

Suppress TV interference at the source with the LP-2500

Low Pass Filter

Use between Transmitter and Antenna or Tuner. Reduces TV interference (TVI) radiated by transmitters operating below 30 MHz. Suppresses harmonics appearing in the TV bands. Additional attenuation to TV IF frequencies above 40 MHz. Low loss to 30 MHz. 9-pole inverse Chebyshev.



#### SPECIFICATIONS:

0-30 MHz Passband: **Cutoff freq:** 35 MHz

42.17 MHz (Color IF), -70 dB Attenuation: 45.75 MHz (Video IF), -70 dB 52.25 MHz (Channel 2 Video), -60 dB

Worst case at 65 MHz, -60 dB 1500 W Key Down - 50% Duty

**Power Capacity:** Impedance: 52 Ohms

0.25 dB @ 30 MHz **Insertion Loss: VSWR:** Less than 1.5:1

**Dimensions:** 8.75Wx3Dx2.75H inches.

#### SPECIFICATIONS:

Passband: 0-30 MHz **Cutoff freq:** 35 MHz

52.25 MHz (Channel 2 Video), -60 dB Attenuation: Worst case at 65 MHz, -60 dB

**Power Capacity:** 2500 W Key Down - 50% Duty

Impedance: 52 Ohms

0.25 dB @ 30 MHz **Insertion Loss: VSWR:** Less than 1.5:1

**Dimensions:** 9.5Wx4.25Dx2.38H inches.

Weight: 2.5 lbs.

### **VECTRONICS**(R)

HPF-1 High Pass TVI Filter

**\$24**<sup>95</sup> Ship Code A

10 15 20 25 30 35 40 45 50

FREQUENCY (MHz)



Suppress TV interference with the HPF1 High Pass Filter Use between Cable and VCR or TV set. Reduces signals received from transmitters operating below 30 MHz. Low loss in the TV passband 52 to 550 MHz. Unique shield breaking circuit prevents cable from acting like an HF antenna.

SPECIFICATIONS:

Passband: 52-550 MHz **Cutoff Freq:** 50 MHz

Attenuation: More than -60dB at 10 MHz; More than -55 dB at 20 MHz;

More than -40 dB at 30 MHz

Impedance: 75 Ohms

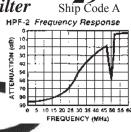
**Insertion Loss:** Less than 0.5 dB @ 52-550 MHz

Connectors: CATV (Type F) 75 3.25Wx1.5Dx2H inches. **Dimensions:** 

### HIGH PASS FILTERS

HPF-2 Deluxe High Pass TVI Filter

HPF-2 BRAID BREAKING HIGH PASS FILTER **VECTRONICS** Made in the U.S.A



\$7095

Suppress the more severe TV interference with the HPF2 Deluxe High Pass Filter

Use between Cable and VCR/TV set. Reduces TV interference (TVI) from nearby radio transmitters (like broadcast, commercial, two-way, amateur, and CB below 30 MHz. Unique common-mode rejection (RF current on the shield of coax cable) using a toroid ferrite core. **SPECIFICATIONS:** 

Passband: **Cutoff Freq:** 50 MHz

Attenuation: More than 80dB: 1-14 MHz;

More than 70 dB: 14-25 MHz; More than 50 dB: 25-30 MHz

Impedance: 75 Ohms

Less than 0.25 dB @ 52-550 MHz **Insertion Loss:** 

CATV (Type F) **Connectors: Dimensions:** 3.625Wx1.12Dx2H inches.

### **SHORTWAVE**

#### Tap into Secret Shortwave Signals with this Vectronics MultiReader™

VEC-162

Ever wonder what those mysterious chirps, whistles, and buzzing sounds are on the shortwave bands?

Much of it is RTTY, ASCII, CW and AMTOR (FEC) signals passing commercial, military, diplomatic, weather, aeronautical, maritime, amateur and other traffic.

Tap into these "secret" signals

Plug this self-contained VECTRONICS

MultiReader<sup>™</sup> into your shortwave receiver's earphone jack. Then watch these mysterious signals turn into exciting text messages as they scroll across an easy-to-read LCD display. No computer, interface, special cables or other equipment is needed.

Eavesdrop on the world!

**Eavesdrop** on the latest breaking news as press agencies from all over the world relay them on RTTY -- it's like having a private wire service in your home. Copy RTTY weather stations from Antarctica, Mali, Congo and many others.

**Listen** to military traffic passing from Panama, Cyprus, Peru, etc. Catch diplomatic, research, commercial and maritime traffic. Listen to maritime users, diplomats and amateurs send and receive error free messages using various forms of TOR (Telex-Over-Radio).

Monitor Morse code communications



from hams, military, commercial, aeronautical, diplomatic and maritime coastal stations from all over the world.

There's plenty of exciting non-voice traffic on shortwave that'll keep you fascinated . . . traffic you can't read unless you have a decoder.

Printer monitors 24 hours a day

Vectronic's exclusive *TelePrinterPort*<sup>TM</sup> lets you monitor any station 24 hours a day by printing their transmissions. Plug your Epson compatible printer into the VEC-162 printer port and you're ready to print.

VECTRONICS MessageSaver<sup>TM</sup>

Save several pages of text in 8 K of memory for later review or re-reading.

High Performance Modem Consistently get solid copy from VEC-TRONICS' high performance PLL (phaselock loop) modem technology. Digs out weak signals buried in noise and even tracks slightly drifting signals. Mark and

space tones are copied -- give improved decoding under adverse conditions.

Easy to use, tune and read

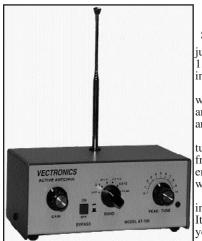
Just push a button to select modes and features from a menu. A precision tuning indicator makes tuning your receiver for best copy on all modes quick and easy.

The 2 line 16 character LCD display has contrast adjustment. One line comes in at speed of signal, second line is delayed so you catch every exciting word!

Copies standard shifts and speeds Copy most standard shifts and speeds in all modes. VECTRONICS' AutoTrak™ automatic Morse Code speed tracking helps VEC-162 to track and decode high speed

MultiReader<sup>TM</sup> Accessories Use 12 VDC or use 110 VAC with optional AC adapter, \$12.95. VEC-162 measures 6<sup>1</sup>/<sub>4</sub>Wx2<sup>1</sup>/<sub>2</sub>Hx6<sup>1</sup>/<sub>4</sub>D inches.

#### AT-100 Portable Shortwave Active Antenna/Tuner



If you want to expand your range \$7995 or just want to get better reception from the stations you listen to, the Ship Code A Vectronics AT-100 Active Antenna is just what you're looking for. This compact (only 1.75Hx5.5Wx4.75D) Active Antenna is perfect for indoor use by itself or with an outside antenna.

This antenna tunes from 300 KHz to 30 MHz, which covers AM broadcast, all shortwave and all amateur radio bands. The signals from the whip are electronically amplified by as much as 10 dB!

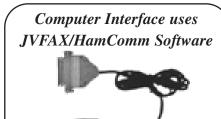
Unlike previous designs our antenna uses a tuned input that provides selectivity (controllable from the front panel) therefore reducing interference and noise, and increasing the signal you do

AT-100 uses a 9 VDC battery or can be plugged in with an optional AC adaptor, AC-12, \$12.95. It's ideal to pack with your shortwave radio on your next trip for much improved reception.

It features an alodined chassis, an electronic powder coated painted cover, and pem nuts to avoid self-tapping screws. Built in the

USA using the best components and guaranteed to last!

If you're an apartment or condo dweller, you don't have to suffer through poor reception because of antenna restrictions. Your prayers are answered with Vectronics' AT-100 Portable Active Antenna Tuner.



\$**39**95 Ship Code A

This computer interface lets you use JVFAX or HamComm software to receive and decode all kinds of digital data with your transceiver. JVFAX software lets you see fabulous full-color FAX and SSTV pictures view, edit, store FAX/SSTV images. Has skew correction, Auto-Receive, Auto-Save, Automatic Tuning Control and Auto-Sync. Receive Baudot, ASCII, AMTOR, ARQ/FEC, SITOR A/B, NAVTEX, SHIP and SYNOP.

### **MORSE TUTORS**

#### **PMT-228** Professor Morse<sup>TM</sup> CW **Počket Tutor**

VECTRONICS' PMT-228

Professor Morse<sup>TM</sup> is so tiny, you can take it anywhere and learn Morse code anytime.

You can take it everywhere! Enjoy code practice at home, going to work, on vacation, on a plane or in a hotel -- no matter where you are, practice without bothering anyone.

*Professor Morse™* gives you a large LCD display that reads out letters, numbers and punctuation in plain English. See code as it is being sent! It's a powerful sound and sight aid! You can constantly check yourself and test your progress.

**Check** your copy, select from menus and program custom charac-

ters and words on this two line display with 32 huge 1/4 inch highcontrast characters.

VECTRONICS' proven beginner's course takes you from zero code speed to solid copy fast. QST rated our tutors "the clear choice for beginners" in a recent review. It follows the ARRL/VEC format for teaching Morse code effectively.

Professor Morse™ takes you from knowing zero code to solid copy fast! You learn individual letter, number and prosign sets first. Previously learned sets are combined with new sets to reinforce all that you have learned.

You get realistic plain English QSO practice which helps you pass and upgrade! They'll also give you plenty of confidence before you make your first real contact.

#### VEC-212

#### Deluxe Morse Straight Key for Code Learning and Sending Practice



VEC-212 Ship Code A

VECTRONICS' Deluxe Code Practice Oscillator features a Morse straight key on a non-skid heavy steel base that stays put on

VEC-212 Deluxe Code Practice Oscillator is easy to take along wherever you go. It's a

solid 81/2x21/4x33/4 inches.

A volume control lets you adjust it from barely audible to full blaring sound. You can practice without bothering anyone. A tone control gives you a wide adjustment, from high "squeaky" to low "booming" tones. you get an earphone jack for private listening.

VEC-212 runs on a 9 volt battery (not included) or 240 VAC with optional adaptor, AC-09 that plugs into a jack on the side.

When you're finished cleaning up your sloppy fists with the VECTRONICS Practice Oscillator, hook the straight key to your transmitter and go on the air like you were born working QSOs!

Don't pass up a super buy! Built-in speaker. Adjustable contacts. Handsome black metal and durable plastic.



PMT-228 **VECTRONICS** Ship Code A

Practice copying words as one sound -- not individual characters. Instant word recognition makes you a true, high-speed CW pro. Word Recognition Mode™ gives you hundreds of commonly used words in amateur radio

*Never run out of practice!* Choose letters, numbers, punctuation, random words or QSOs for practice.

Select normal or Farnsworth spacing. Farnsworth makes it easier to recognize entire characters. It stops the tendency to count individual dots and dashes that slows learning.

Select fixed or more realistic random length groups (up to 8 characters) and change speed 3-60 words-per-minute.

With VECTRONICS' SettingSaver™ your settings are automatically saved, ready to use next time.

**VECTRONICS** gives you SilkySmoothSidetone™ with TrueTone™

sinewave and SoftStart™ dots/dashes -- this lets you concentrate on learning without the distraction of harsh keyclicks. Use earphones for private practice. It is powered with easy-to-install 9 volt battery (not incl).

Adjustable volume, variable pitch 300-1000 Hz. 2<sup>1</sup>/<sub>4</sub>x3<sup>3</sup>/<sub>4</sub>x1 inches. Weighs less than 51/2 ounces. Fits in your shirt pocket.

**Toss** it in your briefcase, travel bag, or stash it in your car's glove compartment and you'll have it ready for instant practice.

**Take** one home today and upgrade or pass the test! It's easy with Professor MorseTM!

VEC-226, \$59.95. Similar to PMT-228. Has most software features of PMT-228, less LCD display and built-in speaker, *SilkySmoothSidetone*<sup>™</sup>, *SettingSaver*<sup>™</sup>. Use with earphones.

Classroom Code Oscillator gives plenty of room-filling volume. This is the world's finest code practice oscillator



VEC-254 Ship Code A

The world's finest code practice oscillator is designed for demanding classroom use and

It produces a true pure sinewave sidetone with no trace of harsh keyclicks.

It produces a true pure sinewave sidetone with no trace of harsh keyclicks.

You'll hear the clearest, sweetest sounding CW you have ever

**Delivers** a full one watt into a built-in 3 inch speaker -- fills an entire room.

Low distortion -- less than .2% total harmonic distortion from its BTL (Bridge-Tied-Load) amplifier.

Has volume control, 400-1000 Hz tone control, on/off switch, power on LED, 1/4 inch key jack, 3.5 mm external speaker jack, uses 12 VDC.

All metal enclosure measures a compact 4<sup>3</sup>/<sub>4</sub>x1<sup>1</sup>/<sub>2</sub>x5 inches.

### **CW KEYERS**

#### **VEC-204**

Electronic Morse Keyer mounted on a Deluxe VECTRONICS Iambic CW Paddle

Tired of sending Morse code with a straight key? It's fun for a while. But making code sound good and easy to copy is tedious, hard work!

**VECTRONICS** VEC-204 electronic code keyer and paddle combination is ideal for sending great sounding code. By squeezing, you can automatically generate perfect code with almost no effort.

If you press the dot paddle before a dash completes, VECTRONICS *SmartDotDash*™ will finish the dash, make a space and then the dot!

It's so forgiving you can concentrate on enjoying your QSO -- not on critical timing. For beginners, type A keying makes sending code easy -- nothing else is sent when the dot or dash being sent is completed.

**Type B** keying makes it even easier to produce certain characters such as a period or letter C. If you release the paddle while a dot or dash is being sent, the dot or dash completes and an opposite element is sent.

**Vectronics** weight control lets you lengthen or shorten dots or dashes. It compensates your transmitter for proper 1:3 ratio.

Here's a more exciting use! Adjust your



dot/dash lengths to sound distinctive. Rare DX can easily pick you out of a pile up.

VECTRONICS VEC-204 electronic keyer has an exclusive 500 character non-volatile Message Memory™. You can embed Message Loop and Extra Word Space commands and a serial number for contesting that increments after each sending. An LED blinks during programming and blinks faster for low memory.

**VECTRONICS** 

VEC-204 electronic keyer has a built-in speaker, pitch and volume controls for side-tone and speed and weight controls. Speed is 2 to 65 wpm. Pitch is 200-1000 Hz. Weight is 10-190%.

Select type A or B keying. Self completing dots and dashes. Semi-auto mode lets you make dashes manually for "bug" operation. Has positive and negative keying.

Has VEČTRON-ICS *KeyerSleep*™ battery saver. Use 9

volt battery (not incl.) or 240 VAC with optional adaptor, AC-12B, \$12.95.

VECTRONICS Deluxe Iambic Paddle features a full range of adjustments in tension and contact spacing, self adjusting nylon and steel needle bearings, contact points that almost never need cleaning, precision machined frame and non-skid feet on a heavy base.

#### VEC-202 VECTRONICS SlimLine<sup>TM</sup> MINI Electronic Keyer

**This** electronic keyer has many features of the VEC-204 but measures just 1<sup>1</sup>/<sub>4</sub>" tall.

**VECTRONICS** CK-202 SlimLine™ MINI Electronic Keyer will fit anywhere in your operation position. 4x1¹/4x3¹/4 inches.

VEC-202 has volatile 37 character MessageMemory™. You can embed Message Loop and Extra Word Space commands and a serial number for contesting

# VECTRONICS MINI-KEYER with MEMORY VECTRONICS POWER SERVICE ON Auto Message On

\$5995 Ship code A that increments after sending. An LED blinks during programming and blinks faster for low memory.

VDC adapter recommended.

#### **Operating Current:**

Depends on sidetone level and keying arrangement. Approximately 10-30 mA.

**Speed Range:** 6-50 WPM. **Iambic Operation:** Type "A" or Type "B".

Weight Control: Internally adjustable.

Front panel speed and volume controls make operation quick and easy.

SmartDotDash™ feature mentioned above also applies to the MINI Electronic Keyer. Weight and tone controls are adjusted internally.

Plug in a VECTRONICS CW Iambic paddle or straight key and your ready to go on the air! Great for practice!
Use 9 volt battery (not included) or 240 VAC with optional adaptor, AC-12B, \$12.95.

**Volume and Pitch:** Controlled from outside on front panel.

**Dot-Space-Dash Ratio:** 1:1:3 Standard. **Sidetone Oscillator:** Internal speaker included.

**Keying Output:** Positive, negative, or relay contact.

**Dimensions:** 5.5" (140 MM) W x 4.75" (121 MM) D x 1.75" (45 MM) H.

**Weight:** 1 lb. (.45 kg).

#### CK-200 Deluxe CW Keyer with



Curtis™ 8045ABM Keyer Chip

The CK-200 features a Ship code A Curtis<sup>™</sup> 8044ABM Keyer Chip with adjustable weight and tone, volume and speed controls, and dot-dash memories.

The CK-200 works with all tube and solid state rigs and is powered by either a 9 Volt battery or an optional AC adapter, AC-12B, \$12.95.

Specifications:

Supply Voltage: 9 volt battery or 9V to 12

#### **VECTRONICS Iambic Key Paddles**



KP-200 **\$69**95 Ship code B **VECTRONICS'** Iambic Key Paddles feature a full range of adjustments in tension and contact spacing, self-adjusting nylon and steel needle bearings,

contact points that almost never need cleaning, precision machine frame and non-skid feet on a heavy base. Comes complete with 1/4 inch phono

plug and cable. Order KP-200 for chrome base, or KP-200B for black base.

### **POWER OUTLETS**

DC-35
High Current Multiple DC Outlet

VEC-316
Multiple DC Power Outlet





DC-35 **6995** Ship Code B

This is VECTRONICS most versatile and highest current Deluxe Multiple DC Power Outlet. It lets you power two HF and/or VHF transceivers and six or more accessories from your transceiver's main 12 VDC power supply.

**You** get two pairs of super heavy duty 30 amp 5-way binding posts for powering your transceivers. Each pair is individually fused and RF bypassed. They handle a total of 35 amps. An LED indicates power "on".

**Six** pairs of heavy duty, RF bypassed 5-way binding posts let you power your accessories. They handle a total of 15 amps and are protected by a master fuse, have an on/off power switch and an LED power indicator.

**You** get 6 feet of super heavy duty eight gauge color-coded cable with ring tongue terminals. Built-in 0-25 VDC monitor meter, binding posts space for standard dual banana jack.

**Heavy** duty aluminum construction.  $12^{1/2}x2^{3/4}x2^{1/2}$  inches.

VEC-316 \$4495 Ship Code B **VECTRONICS** Deluxe Multiple DC Power Outlet gives you 8 DC outlets for powering your accessories. Hooks to your rig's main 12 VDC power supply.

You can monitor DC voltage on its built-in voltmeter. Has power switch and 15 amp fuse. Outlets are 8 pairs of heavy duty 5-way binding posts with standard spacing for dual banana jacks.

**DC** outlets are RF bypassed.  $13^{1/2}x2^{3/4}x2^{1/2}$  in. Made in USA.

QUALITY + PERFORMANCE + VALUE = Spectacular Accessories from VECTRONICS . . . The Technology Leader!

For your nearest dealer or to order, call toll-free . . .

1-800-363-2922

VECTRONICS . . . the finest amateur

radio products made!

### How to reach us . . .

VECTRONICS

Tech: 662-323-5800 FAX: 662-323-6551

Web: http://www.vectronics.com

300 Industrial Park Road, Starkville, MS 39759 USA Vectronics Warranty . . .

All goods sold hereunder are warranted to be free from defects in material and workmanship for a period of 12 months from date of purchase. Units being sent to *VECTRONICS* for repair or evaluation should have a letter of explanation and a copy of the purchase receipt. *VECTRONICS* will repair or replace your unit (at *VECTRONICS* option) for one complete year. *Prices and specifications subject to change without notice*.

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#### **ORDERING INFORMATION**

Mail Orders: Write VECTRONICS, 300 Industrial Park Road, Starkville, MS 39759. Include payment and shipping charges. See shipping code information below price of product in catalog and reference ship code here.

**Code E** is oversized and cannot be shipped First Class. **Foreign** sales must call for quote.

**Credit Cards:** Visa, Master Card, Discover, or American Express. Include account number and expiration date.

Foreign Orders: US funds only.

Appreciate sales tax is applied for the following states: MS, OH and NC.

Ship	UPS	First		
Code	Ground	Class	Canada	Foreign
A	\$6.00	\$7.00	\$14.00	\$40.00
В	\$9.00	\$12.00	\$20.00	\$60.00
С	\$10.00	\$14.00	\$25.00	\$80.00
D	\$20.00	\$22.00	\$35.00	\$120.00
Е	*	\$44.00	\$56.00	*

\*Cannot be shipped by mail.

### VECTRONICS KITS . . . fun to build and use!

#### 49 MHz Wireless Band Monitor Receiver

Explore weak wireless signals from miles around!

The 49-MHz consumer wireless band is teaming with signals from baby VEC-1016K monitors, cordless phones, \$34<sup>95</sup> walkie-talkies, remote control Ship Code A boxes, wireless intercoms, and much more. If you ever wanted to explore this especially-active portion of the radio spectrum, this kit's for you. The VEC-1016K makes a great add-on baby monitor or test receiver, and with the addition of an outdoor antenna, it pulls in weak wireless signals for miles around -- just like the best commercial scannder and monitor receivers!

Building the VEC-1016K provides excellent hands-on electronics experience.

Detailed step-by-step assembly instructions guide you through each stage of construction, and clearly-presented alignment procedures ensure top performance without need for expensive test equipment. Convenient electronic tuning covers just the 49-MHz band, with no need to enter long strings of microprocessor commands to get the coverage you want. Once tuned to an active channel, your radio's "tailfree" squelch mutes background noise between transmissions. The VEC-1016K consumes minimal energy runs for many hours from its self-contained 9-volt flat-pack, alkaline battery. Plug in a 8 Ohm speaker or use headphones for loud-and-clear reception. All circuitry is selfcontained on a rugged 3x3.2 inch pc board.

Skill Level: Intermediate Requires more involved construction, you

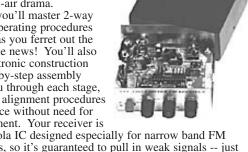
may use some test gear for final adjustment or tuning. **VEC-1000KC**, \$14.95. All metal matching cabinet for 49 MHz Wireless Band Monitor Receiver. Includes knobs, hardware, and rubber feet. Has brushed aluminum looking front panel decal.

#### **Emergency and Business** Band receiver

Gather news first hand -- tune in local fire, police, etc. If you like prowling the airwaves to gather news first-hand, the VEC-

1012K is the perfect kit for you! Tune in local fire, police, ambulance, public service, commercial business, and marine traffic as you search for real-life on-air drama.

Before you know it, you'll master 2-way radio lingo, special operating procedures and police 10-codes as you ferret out the "real story" behind the news! You'll also master hands-on electronic construction skills. Detailed step-by-step assembly instructions guide you through each stage, and clearly presented alignment procedures ensure top performance without need for expensive test equipment. Your receiver is



**\$34**<sup>95</sup> Ship Code A

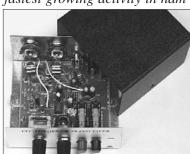
built around a Motorola IC designed especially for narrow band FM communication radios, so it's guaranteed to pull in weak signals -- just like the best commercially built scanners and two-way transceivers. Electronic tuning lets you scan the band quickly for activity without need for entering complex strings of microprocessor commands. And, once you've found the action, your radio's fully adjustable "tail-free" squelch eliminates annoying background noise between transmissions. The VEC-1012K uses minimal energy, and can run for many hours from its self-contained 9-Volt flat-pack alkaline battery. Plug in a 8-Ohm speaker or use headphones for loud-and-clear reception. All circuitry is self-contained on a rugged 3x3.2 inch pc board.

**Skill Level:** *Intermediate* Requires more involved construction, you may use some test gear for final adjustment or tuning.

VEC-1000KC, \$14.95. All metal matching cabinet for 49 MHz Wireless Band Monitor Receiver. Includes knobs, hardware, and rubber feet. Has brushed aluminum looking front panel decal.

#### **VECTRONICS QRP Transceiver Kits**

This kit is a great introduction to QRP -- the hottest and fastest growing activity in ham radio! With this tiny transceiver,



you'll discover what thousands of QRP enthusiasts already know - you don't need a \$1000 radio to get on the air and QSO worldwide! It doesn't take a degree from

MIT to "homebrew" a rig that works! Indeed, all it takes are a few simple tools and a couple of relaxing evenings of your time.

All it takes is some simple cir-

cuitry using less energy than a penlight bulb! You get VXO frequency control, broad banded transmitter circuitry, solid one watt plus output, shaped keying, .3uV sensitivity, direct conversion receiver and much,

**Connect** an antenna, peak the receiver's

front-end trimmer and you're ready to go! You'll get microvolt sensitivity and a solid QRP CW signal with shaped keying.

Best of all, you'll experience the excitement of working other stations using a simple home-built rig you made with your own two hands.

VEC-1320K, 20 Meter QRP Transceiver Kit (Also for 30, 40, and 80 Meters) includes crystal for the popular QRP calling frequency. A tiny 1<sup>3</sup>/<sub>4</sub>x4<sup>3</sup>/<sub>4</sub>x5<sup>1</sup>/<sub>4</sub> inches lets you take it with you anywhere -- hotels, camping, field day, mountain top backpacking, etc.

**VECTRONICS**' careful step-by-step instructions guide you through the construction and tune-up.

**VECTRONICS'** kits work! They're created by engineers who are hobbyists-at-heart to give you what you want -- a professional product at a hobby price.

**Our** QRP transceiver kits feature a professional quality epoxy glass PC board with solder mask and component legend, simple step-by-step instructions and highest quality components.

**Skill** level for the VEC-1300K series QRP Transceiver Kits is Intermediate level kit building. This kit requires more involved construction, you may use some test gear for final adjustment or tuning.

**Turn** your *VECTRONICS*' VEC-1320K into a fabulous show piece! Add our custom cabinet and knob set to complete your kit. VEC-1300KC, \$14.95.

300 Industrial Park Road Starkville, MS 39759 USA

VEC-1320K, 20 Meters VEC-1330K, 30 Meters

VEC-1340K, 40 Meters

VEC-1380K, 80 Meters

\$**59**<sup>95</sup>

Bulk Rate U.S. Postage PAID Starkville, MS 39759 Permit No. 19

TO:			